

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A compressor, comprising:

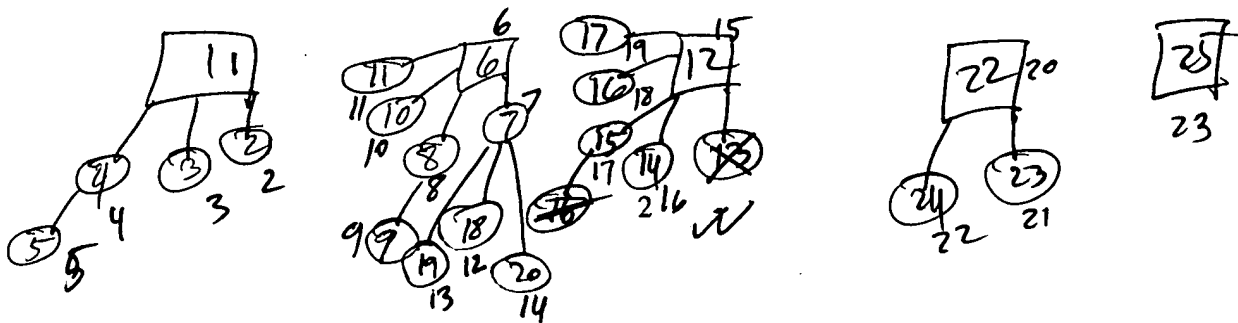
a compression cylinder adapted to receive fluid from a suction port and to urge the fluid out of a discharge port;

a moveable member within the compression cylinder for compressing the fluid within the cylinder and urging it out of the discharge port; and

a variable clearance volume chamber in fluid communication with the compression cylinder, the chamber having a selectively variable volume for containing a correspondingly variable amount of the fluid for decreasing a mass flow rate of the compressor as an ambient temperature increases.

2. (Original) The compressor of claim 1, wherein the variable clearance volume chamber includes a moveable wall portion that is selectively moveable between a maximum volume position and a minimum volume position.

3. (Original) The compressor of claim 1, wherein the moveable member comprises a piston that reciprocates within the compression cylinder and wherein the variable clearance volume chamber is positioned to receive fluid from the compression cylinder as the piston moves in a direction to urge the fluid out of the discharge port.



4. (Currently Amended) The ~~system-compressor~~ of claim 1, including a controller that selectively controls the volume of the variable clearance volume ~~chamber within the compressor.~~

5. (Currently Amended) The ~~system-compressor~~ of claim 4, wherein the controller determines an ambient air temperature and responsively controls the volume ~~in the compressor.~~

6. (Currently Amended) A water heater system, comprising:
a gas cooler having a heat exchanger that facilitates transferring heat between a refrigerant and water;
an evaporator having a heat exchanger that facilitates transferring heat between ambient air and the refrigerant;
an expansion device between the gas cooler and the evaporator; and
a compressor that draws the refrigerant from the evaporator, pressurizes the refrigerant and directs the refrigerant ~~it~~ to the gas cooler, the compressor including a variable clearance volume for selectively controlling a mass flow rate of the refrigerant.

7. (Currently Amended) The system of claim 6, including a controller that selectively controls the volume of the variable clearance volume ~~within the compressor.~~

8. (Currently Amended) The system of claim 7, wherein the controller determines an ambient air temperature and responsively controls the volume ~~in the compressor.~~

9. (Original) The system of claim 8, wherein the controller controls the size of the variable clearance volume to change the mass flow rate of the refrigerant to maximize the system performance

10. (Currently Amended) The ~~compressor system~~ of claim 6, wherein the variable clearance volume ~~chamber~~ includes a moveable wall portion that is selectively moveable between a maximum volume position and a minimum volume position.

11. (Currently Amended) The ~~compressor system~~ of claim 6, wherein the ~~moveable member~~ compressor comprises a piston that reciprocates within ~~the a~~ compression cylinder and wherein the variable clearance volume ~~chamber~~ is positioned to receive fluid ~~the refrigerant~~ from the compression cylinder as the piston moves in a direction to direct the refrigerant to the gas cooler ~~urge the fluid out of the discharge port.~~

12. (Original) A method of controlling refrigerant flow in a water heater system, comprising:

selectively varying a clearance volume in a compressor responsive to an ambient air temperature condition.

Cancelled

13. (Original) The method of claim 12, including decreasing the clearance volume responsive to a decreasing ambient air temperature condition.

14. (Original) The method of claim ~~13~~¹², including decreasing the size of the clearance volume to a level to maximize the system performance

15. (Original) The method of claim 12, including increasing the clearance volume responsive to an increasing ambient air temperature condition.

16. (Original) The method of claim ~~15~~¹², including increasing the size of the clearance volume to a level to maximize the system performance.

17. (New) The method of claim 12, including decreasing a mass flow rate of the compressor as the ambient air temperature condition increases.

18. (New) The system of claim 7, wherein the controller determines a temperature associated with the evaporator and controls the variable volume within the compressor responsive to the determined temperature.

19. (New) The system of claim 7, wherein the controller determines a pressure within the system and controls the variable volume within the compressor responsive to the determined pressure.

20. (New) The system of claim 7, wherein the controller controls a fan associated with the evaporator in a manner corresponding to the control of the variable volume.

Cancelled

21. (New) A compressor, comprising:

a compression cylinder adapted to receive fluid from a suction port and to urge the fluid out of a discharge port;

a moveable member that comprises a piston that reciprocates within the compression cylinder for compressing the fluid within the cylinder and urging it out of the discharge port; and

a variable clearance volume chamber in fluid communication with the compression cylinder and positioned to receive fluid from the compression cylinder as the piston moves in a direction to urge the fluid out of the discharge port, the chamber having a selectively variable volume for containing a correspondingly variable amount of the fluid.

22. (New) A compressor, comprising:

a compression cylinder adapted to receive fluid from a suction port and to urge the fluid out of a discharge port;

a moveable member within the compression cylinder for compressing the fluid within the cylinder and urging it out of the discharge port;

a variable clearance volume chamber in fluid communication with the compression cylinder, the chamber having a selectively variable volume for containing a correspondingly variable amount of the fluid; and

a controller that determines at least one condition associated with the compressor and selectively controls the volume of the variable clearance volume chamber responsive to the determined condition.

23. (New) The compressor of claim 22, wherein the controller determines a pressure and responsively controls the variable volume.

24. (New) The compressor of claim 22, wherein the controller determines an ambient air temperature and responsively controls the volume in the compressor.

25. (New) A compressor, comprising:

a compression chamber adapted to receive fluid from a suction portion and to urge the fluid out of a discharge port;

a moveable member within the compression chamber for compressing the fluid within the chamber and urging it out of the discharge port; and

a variable clearance volume chamber in communication with the compression chamber, the variable clearance volume chamber having a selectively variable volume for retaining a corresponding amount of fluid that increases as an ambient temperature increases.